

# First Last

first.last@gmail.com | (555) 555-5555

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## EDUCATION

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**Major University** – BSc with Distinction, Electrical Engineering 2014-2019

- Cumulative GPA 3.76, Dean's List all semesters
- International Undergraduate Award; 2016, 2018

## WORK EXPERIENCE

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**Major University** – Graduate Research Assistant, Mechanical Engineering Dept. May 2019 – Nov. 2019

- Provided electrical consultation for various mechanical research projects
- Designed and setup new electronics lab, including equipment selection, procurement, and testing
- Oversaw testing, data collection, data analysis, and refinement of an evolutionary algorithm for research into vortex-induced vibrations (VIV), including energy harvesting and pipe exposure detection.
- Reconstructed and improved a prototype VIV force-feedback control system, taking it from proof-of-concept to a fully realized and documented system for ongoing and future research.

## PROJECT EXPERIENCE

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**Autonomous UAV** – long range surveillance and research testbed 2019

Long-range UAV designed and built to meet client specifications, including 5 metre wingspan, 20 lb payload, 100 km range, 110 km/h cruise speed, and autonomous take-off, cruise, and landing.

- Electrical Hardware Lead responsible for design, integration, fabrication, and testing of electrical systems
- Designed data acquisition system for wing pressure, 3D airspeed, skin strain, and acceleration
- Responsible for PCB development, including design basis, component selection, schematic capture, PCB layout, circuit simulation, assembly, and testing.

**Thrust Stand** – static engine thrust test platform 2019

Test stand designed for characterization of engine performance for UAV engines up to 20 pounds of thrust

- Designed and built data capture system including load cell selection, circuit design, and logging software
- Responsible for collection and analysis of thrust and RPM data

**Home Monitoring System** – with web interface and email/SMS alerts 2018

Fully customizable system supporting both off-the-shelf sensors and custom hardware, built using a Raspberry Pi, an Arduino, and a custom environmental monitoring PCB.

- Responsible for circuit/PCB design, sensor selection, hardware integration, assembly, hardware testing, and software development.

## SKILLS & RELATED INTERESTS

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**Software:** Altium Designer ▪ MATLAB ▪ Simulink ▪ Multisim ▪ LTspice ▪ Fusion 360 ▪ Solidworks ▪ MS Office

**Programming:** Python ▪ Java ▪ C ▪ C++ ▪ C# ▪ Lua ▪ Git

**Electronics equipment:** PSU ▪ DMM ▪ Oscilloscope ▪ Function Gen. ▪ Soldering

**Hardware platforms:** Arduino ▪ Teensy ▪ Raspberry Pi ▪ Pyboard ▪ Pyduino

## VOLUNTEER WORK, CLUBS & ACTIVITIES

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**Makerspace Mentor** – Major University 2019-present

**Hardware Design Class Instructor** – Major University 2018-present

**Embedded in Embedded** (Micro Processors Group) 2014-present

**University UAV Team** 2018-2019

**Math and Physics Tutor** – Local College 2014-2016